

REMARKS

Claims 2-9, 11, 13-27 and 30-32 are pending in the application.

Claims 2-6, 8-9, 11 and 13-26 are allowed.

Claims 7, 27 and 30-32 have been rejected.

Claims 7 and 32 have been amended as set forth herein.

Claims 2-9, 11, 13-27 and 30-32 remain pending in this application.

Reconsideration of the claims is respectfully requested. The Applicants make the aforementioned amendments and subsequent arguments to place this application in condition for allowance. Alternatively, the Applicants make these amendments and offer these arguments to properly frame the issues for appeal.

I. **CLAIM REJECTIONS -- 35 U.S.C. § 102**

Claim 27 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,385,766 B1 to *Kumamoto* (hereinafter “*Kumamoto*”). This rejection is respectfully traversed.

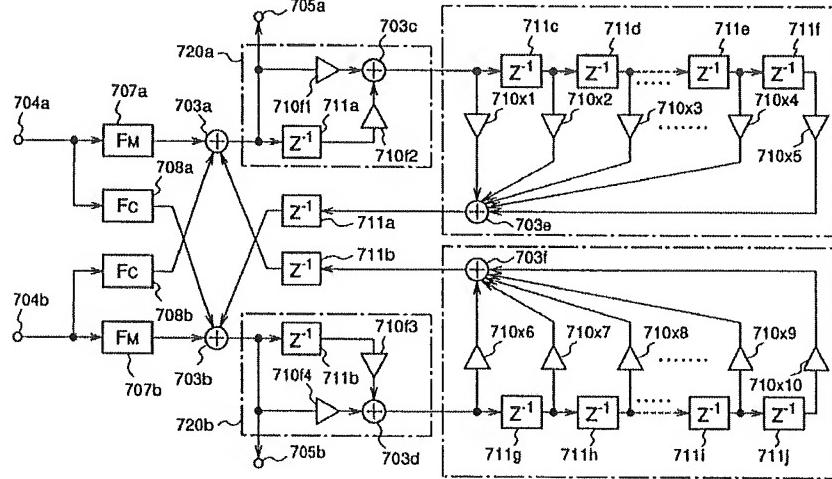
A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131, p. 2100-76 (8th ed., rev. 4, October 2005) (*citing In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. *Id.* (*citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

Independent Claim 27 recites, *inter alia* “providing the second output signals to a first feedback crossover path operable to receive, delay, and filter the second output signals; and providing the first output signals to a second feedback crossover path operable to receive, delay, and filter the first output signals.” The claim further recites “wherein generating the first output signals further comprises using an output from the second feedback crossover path; wherein generating the second output signals further comprises using an output from the first feedback crossover path.”

The Office Action contends that *Kumamoto*, Figures 6-8 and column 21, lines 1-20, teaches each and every feature as recited and arranged in independent Claim 27. *Kumamoto* relates to an apparatus for sound image localization. Further, *Kumamoto*, column 21, lines 1-20, describe the

elements illustrated in Figure 17. (*Kumamoto*, col. 19, lines 59-65; col. 21, lines 1-20). Figures 8a and 8b illustrate graphs showing frequency characteristics. (*Kumamoto*, col. 7, lines 43-45). In figures 6, 7 and 17, *Kumamoto* discloses that the input signals are filtered and feedback through crossovers. For convenience, Figure 7 is reproduced herein. However arguments with respect to Figure 7 apply equally to Figures 6 and 17.

Fig.7



*Kumamoto* discloses that input signals are received at terminals 704a and 704b (e.g., 604a and 604b on Figure 6 and 1704a-d on Figure 17). The output signals are output at 705a and 705b respectively (e.g., 605a and 605b on Figure 6 and 1705a and 1705b on Figure 17). The output signals in Figures 6 and 7 are summed with a delayed output signal and passed through additional delaying units. However, the output signals are not filtered. Further, *Kumamoto* does not disclose that the output signals in Figure 17 are provided to feedback crossover paths. Therefore, the paths in Figures 6 and 7 are not operable to filter the output signals. Additionally, the output signals in

Figure 17 are not provided feedback crossover paths that are operable to receive, delay and filter the respective output signals. Therefore, *Kumamoto* does not teach or suggest “providing the second output signals to a first feedback crossover path operable to receive, delay, and filter the second output signals; and providing the first output signals to a second feedback crossover path operable to receive, delay, and filter the first output signals; wherein generating the first output signals further comprises using an output from the second feedback crossover path; wherein generating the second output signals further comprises using an output from the first feedback crossover path” as recited by independent Claim 27.

Accordingly, the Applicants respectfully request that the § 102 rejection with respect to Claim 27 be withdrawn.

## II. CLAIM REJECTIONS -- 35 U.S.C. § 103

Claims 7 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,285,766 B1 to *Kumamoto* (hereinafter “*Kumamoto*”) in view of U.S. Patent No. 7,167,566 B1 to *Bauck* (hereinafter “*Bauck*”). The Applicants respectfully traverse the rejection.

Claims 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,285,766 B1 to *Kumamoto* (hereinafter “*Kumamoto*”) and U.S. Patent No. 6,285,766 B1 to *Kawano* (hereinafter “*Kawano*”). The Applicants respectfully traverse the rejection.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a prima facie case of obviousness. MPEP § 2142, p. 2100-133 (8th ed. rev. 4, October

2005). Absent such a *prima facie* case, the Applicants are under no obligation to produce evidence of nonobviousness. *Id.* To establish a *prima facie* case of obviousness, three basic criteria must be met: *Id.* First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. *Id.*

Currently amended independent Claim 7 recites, *inter alia*, "the controller causes the virtualizer to virtualize the at least one speaker by individually altering a frequency response of one or more of the filters and a delay of one or more of the delay lines." The Applicants submit that support for amendments to Claim 7 can be found in the specification, paragraph [0063]-[0070].

The Applicants submit that *Kumamoto* and *Bauck*, taken singularly or in combination, do not disclose at least the aforementioned feature of independent Claim 7. In particular, it is submitted that *Bauck* does not provide a disclosure that remedies the conceded deficiencies of *Kumamoto*. Accordingly, without conceding the propriety of the asserted combination, the asserted combination of *Kumamoto* and *Bauck* is likewise deficient, even in view of one of ordinary skill in the art.

The Office Action concedes that *Kumamoto* does not disclose wherein the controller causes the virtualizer to virtualize the at least one speaker by altering the frequency response of one or more

of the filters. Nonetheless, the Office Action rejects independent Claim 7 contending that *Bauck* provides this necessary disclosure. This contention respectfully is traversed.

*Bauck* relates to a method of creating a binaural impression of sound from an imaginary source. (*Bauck*, col. 6, lines 58-60). *Bauck* teaches that designers can modify the frequency response uniformly across the various signal channels to effect desirable timbral changes or to remove undesirable timbral characteristics. (*Bauck*, col. 7, lines 5-7). *Bauck* expressly teaches that the frequency responses are modified uniformly to affect the timbre (i.e., the quality of a musical note or sound or tone that distinguishes different types of sound production, such as voices or musical instruments) perceived by a listener. *Bauck* does not teach that the frequency response for individual filters can be altered to cause a virtual speaker location to be changed. Therefore, *Bauck* cannot reasonably be interpreted as providing a disclosure that remedies the conceded deficiencies of *Kumamoto*.

Accordingly, the Applicants respectfully request that the § 103 rejection with respect to Claim 7 be withdrawn.

Currently Amended independent Claim 32 recites “individually altering a frequency response of one or more of the filters and a delay of one or more of the delay lines to change the location of one or more of the virtualized speakers.” The Applicants submit that support for amendments to Claim 7 can be found in the specification, paragraph [0063]-[0070]. Accordingly, independent Claim 32 recites features analogous to features recited in independent Claim 7. Therefore, Claim 32 is allowable for the same, or similar, reasons as Claim 7.

Accordingly, the Applicants respectfully request that the § 103 rejection with respect to Claim 32 be withdrawn.

Claims 30-31 depend from, and further limit, independent Claim 32. These claims are allowable for at least the same reasons as the claim from which they depend. Accordingly, the Applicants respectfully request that the § 103 rejections with respect to Claim 30-31 be withdrawn.

The Applicants also disagree with the Office Action's rejections of Claims 2-7, 11, 13-23, 30 and 32 based on additional misdescriptions and/or misapplications of *Kumamoto*, *Bauck* and *Kawano* to at least some of Claims 7, 27, and 30-32. However, the Applicants' arguments regarding those other shortcomings of *Kumamoto*, *Bauck* and *Kawano* are moot in view of the arguments above. However, the Applicants reserve the right to dispute in future Office Action responses the appropriateness and the applications of *Kumamoto*, *Bauck* and *Kawano* to the claims of the present application, including the right to dispute assertions made in the February 2, 2009 Office Action.

### III. ALLOWABLE CLAIMS

The Applicants thank the Examiner for indicating that Claims 2-6, 8-9, 11 and 13-26 are allowable.

**CONCLUSION**

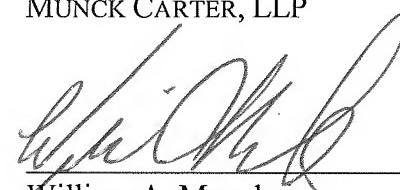
As a result of the foregoing, the Applicants assert that the remaining Claims in the Application are in condition for allowance, and respectfully request an early allowance of such Claims.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@munckcarter.com](mailto:wmunck@munckcarter.com).

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

MUNCK CARTER, LLP



Willian A. Munck  
Registration No. 39,308

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P.O. Box 802432  
Dallas, Texas 75380  
(972) 628-3600 (main number)  
(972) 628-3616 (fax)  
E-mail: [wmunck@munckcarter.com](mailto:wmunck@munckcarter.com)